

# *Postings: from the Desk of Jim Brodrick*

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Greetings from Raleigh, North Carolina, where we are hosting the seventh annual U.S. Department of Energy (DOE) Solid-State Lighting R&D Workshop. In a recent Posting, I mentioned how important our SSL R&D activities are, because they lead to advances in efficacy and performance that might not otherwise be achieved without DOE funding. This workshop brings together America's best and brightest scientists focused on solid-state lighting research and development advances, strategies, and ideas. What's shared here informs research agendas in government, academia, and industry. If you're looking for a crystal ball for lighting, it's a great starting point.

Since 2003, DOE has worked with more than 200 research partners who are pushing hard in the laboratory, trying to further improve the underlying technology and explore new and different pathways to increase performance and reduce cost. This year, it is my pleasure to recognize nine partners who made significant achievements in 2009. They come from academia, national labs, and businesses small and large. Congratulations to the SSL research teams from the University of Florida, Sandia National Laboratories, Los Alamos National Laboratory, PhosphorTech Corporation, Arkema, Inc., Universal Display Corporation, Cree, Inc., Osram Sylvania Development, Inc., and Philips Lumileds Lighting.

These partners are among more than 40 current DOE-funded projects to be featured here in a poster session, where researchers share updates and progress on their projects. Both LED and OLED project posters from a wide range of organizations will be on display, giving attendees a chance to ask questions, delve deeper, and learn from each other's work. It's here where partnerships often begin, with scientists sharing, seeking new ways to get around "walls" that are getting harder to scale.

The heart of the meeting will explore the question: what are the limits for SSL? With technology changing so fast, we don't know for sure

what the performance limits are, or how high we can go in terms of efficacy. Our keynote presenter, Shuji Nakamura, one of the pioneering researchers in SSL, has some illuminating thoughts on this subject and will offer his insights on the path to higher efficacy and improved performance.

Panel and track sessions will explore the barriers in more detail: what is stopping us from higher efficacy? Is it the phosphor, the LED itself, the packaging design? What are the barriers to achieving practical, high-efficacy OLED products? Our attendees will roll up their sleeves, dive into the details, and their input will inform updates to the 2010 R&D Multi-Year Plan and upcoming DOE solicitations. Another session will delve into the complex topic of reliability and lifetime, sharing insights from a DOE-industry working group considering methods, metrics, and underlying root causes of failure.

Sharing lessons learned is an important reality check for all of us working with SSL, so we'll also hear from those with hands-on experience implementing the technology. Another reality check will be provided by Naomi Miller, who brings a lighting designer's view of LED lighting solutions. Next Generation Luminaires and Lighting for Tomorrow design competition winners will also speak, sharing what worked in their product development process and how winning a DOE competition made a difference to their teams, products, and markets.

While we're here, the City of Raleigh is offering southern hospitality, welcoming our attendees with a tour of more than 1,000 LED fixtures installed as part of the LED City program. Thanks to tour sponsors Cree and Progress Energy, who are based in the region, for stepping up to show us the many ways the city has implemented LEDs, from parking garage, street, area, landscape, solar-powered, and decorative lighting.

If you're not an R&D type, but want to experience and participate in a DOE workshop, two more are coming up in 2010. The second annual SSL Manufacturing R&D Workshop will take place in San Jose on April 21-22, 2010, and focuses on improving LED and OLED manufacturing processes, equipment, and costs. The fourth annual Market Introduction Workshop will take place in July on the east coast and will emphasize strategies for speeding SSL market adoption. Tune in next week for an update on the latest buzz from

Raleigh.

As always, if you have questions or comments, you can reach me at  
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